Attorney Docket: VISA-54 Reply to Notification of June 7, 2004

Appl. No.: 09/896,486 Amdt. Dated: June 15, 2004

In the Specification:

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Please amend the specification as follows: After the fourth paragraph on Page 24, starting at Line 14, please add the following paragraph:

Fig 7d. is a signal timing diagram for a method to measure the the total capacitance for all the pixels on the selected row of the photo-conversion device of an active pixel sensor of this invention.

Please replace the last paragraph on Page 38, starting at Line 8 and extending to Page 39, with the following rewritten paragraph:

The testable APS cell coupled to the test voltage select circuit TestVSelect of Fig. 6 is used to measure the total capacitance C_{FD} of the row of pixels. Referring to Fig. 6, the voltage sources V_S1 and V_S2 provide the voltage levels V1 and V2 to the test voltage select circuit. In series with the voltage source V_S1 is a current measuring device X1 to determine the current I flowing from the voltage source V_S1 to the test voltage select circuit. Refer back-to Fig. 7d for the description of the method to measure the total capacitance C_{FD} for all the pixels on the selected row. The row select signal is held at the low voltage level (0V) to keep the transistor M2 turned off. At the time t_0 , the reset signal V_{rst} changes from the low voltage level (V0) to the high voltage level (V_{DD}) to activate the transistor V_{DD} 0 of each APS pixel cell. At the time v_{DD} 1 of each pixel on the row of pixels. Once all the capacitances v_{DD} 2 at the node v_{DD} 3 of each pixel on the row of pixels. Once all the capacitances v_{DD} 3 at the node v_{DD} 4 of each pixel on the row of pixels. Once all the capacitances v_{DD} 3 at the node v_{DD} 4 of each

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pixel is charged to the voltage level V2, the switch S2 is deactivated at the time t_2 . The switch S1 is activated at the time t_3 to place the voltage level V1 at the reference distribution node RD of each pixel. As the capacitance C_{FD} of all the pixels on the selected row are charged, the current I is recorded by the current measurement device X1 of Fig. 6. When all the capacitances C_{FD} of the node FD of all the pixels have charged to the voltage level V1, the switch S1 is deactivated at the time t_5 .